

Appl. No. 10/719,148
Amdt. Dated January 25, 2007
Reply to Office action of September 18, 2006

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REMARKS/ARGUMENTS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Claims 1 and 11 are currently amended.

Claim 27 is added.

As an initial matter, applicant would like to thank the Examiner for the telephone interview of December 4, 2006, during which the various points of the Office action were discussed. The application has been amended in accordance with the Examiner's suggestions, and it is respectfully submitted that the application is now in condition for allowance.

Claim 1 was objected to under 35 U.S.C. 112, sixth paragraph. The Examiner stated that the word "means" was impermissibly preceded by the word "for." As discussed during the telephone interview, nowhere in the language of claim 1 does the word "for" immediately precede the word "means." The Examiner agreed to this statement, but further indicated that he wished the applicant to provide an example in the specification for the phrase "means for vibrating." As one example, the applicant would like to direct the Examiner to paragraph [0025] of the specification, in which the means for vibrating can include a vibration plate, vibration spring, or various other suitable vibration structures that can produce a drum effect in the crankcase to induce an oil surface to ripple within the crankcase. Accordingly, withdrawal of the objection is respectfully requested.

Claim 1 was rejected under 35 U.S.C. 102(b) as being anticipated by Haberlein et al. (U.S. Patent No. 6,109,251). Traversal of this rejection is made for at least the following reasons. Amended claim 1 states, in pertinent part, "means for vibrating the crankcase to mist oil from the oil reservoir to lubricate

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non-crankcase-*environment* engine components." (emphasis added) Haberlein does not disclose such structure.

In distinction, Haberlein provides a negative teaching against the use of an oil mist to lubricate non-crankcase-*environment* engine components. For example, Haberlein states "[a]n oil mist develops in the crankcase so that corresponding measures must be taken to ensure that the oil does not escape uncontrollably but is held back in the crankcase." (See column 1, lines 22-25). Additionally, Haberlein states "[t]he filter 37 increases the separating action of the venting system and holds the oil mist back in the crankcase." (See column 4, lines 60-63). Further still, Haberlein states "[a]n exiting of oil from the crankcase is substantially precluded with this configuration at full pressure compensation of the crankcase interior space." (See column 5, lines 6-8). Thus, at most, Haberlein discloses the use of an oil mist from an oil reservoir to lubricate only those engine components located within a crankcase.

Conversely, the means for vibrating of the instant application acts to mist oil from the reservoir to lubricate various engine components located outside of the crankcase environment. Examples of engine components located outside of the crankcase environment include valving components, such as intake valves, exhaust valves, and/or valve drive train components (e.g., rocker arms, valve springs, pushrods, cams, etc.), though various other engine components receiving oil mist lubrication can also be located outside of the crankcase environment.

As discussed during the telephone interview, the crankcase environment includes the internal cavity that exists within at least the crankcase 26 and the cylinder 14 below the sealing provided by the piston 20. The internal cavity of the crankcase environment is bounded by the walls of the crankcase 26 and the cylinder 14, but can also be bounded by other engine components. For example, the piston 20 can bound the crankcase environment by way of piston rings or the like that inhibit engine lubrication from leaving the crankcase environment. As such, the combustion chamber area 50 located above the head of the piston 20

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is not included in the crankcase environment. Thus, Haberlein does not disclose every limitation required by amended claim 1, notably "means for vibrating the crankcase to mist oil from the oil reservoir to lubricate non-crankcase-environment engine components." Accordingly, it is respectfully submitted that amended claim 1 is now in condition for allowance. Withdrawal of the rejection is respectfully requested.

Claims 2-3, 5-7, and 20-26 were objected to by the examiner as being dependent upon a rejected base claim, but would be allowable if rewritten. Claims 2-3, 5-7, and 20-26 are dependent upon amended claim 1. Because it is believed that amended claim 1 is now in condition for allowance, withdrawal of this objection and allowance of claims 2-3, 5-7, and 20-26 is respectfully requested.

Claims 11, 14, and 15 were rejected under 35 U.S.C. 103(a) as being obvious in view of each of Meyer (U.S. 6,745,742), Wu (U.S. 6,098,577), and Tamba et al. (U.S. 4,762,098). Traversal of these rejections is made for at least the following reasons. Claim 11 states, in pertinent part, "means for misting oil from the oil reservoir *without the use of an oil dipper*, wherein the means for misting oil includes providing a clearance area in the crankcase which is less than 10 mm such that a surface ripple in the oil reservoir splashes against a counterweight in the engine, *the clearance area being maintained during a complete rotation of the crankshaft above an at-rest oil level.*" (emphasis added) Neither Meyer nor Wu nor Tamba et al. disclose, teach or suggest such structure.

In distinction and as discussed during the telephone interview, each of the Meyer, Wu, and Tamba et al. references provide a teaching away from the claimed structure of amended claim 11 as they disclose the use of an oil dipping portion for dipping into and out of an oil reservoir for splashing oil within the crankcase for lubricating the engine components. For example, in Wu, the counterweight 50 dips into the oil 13 and passes oil into a reserve duct 60, whereupon the oil is splashed into the crankcase 12 as the counterweight 50

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rotates. In both of Meyer and Tamba et al., a portion of the crankshaft 30, 29, respectively, dips into the oil for splashing the oil within the crankcase. Thus, all three of the references disclose the use of an oil dipping portion for dipping into an oil reservoir for lubricating the engine components.

Moreover, also as discussed, each of these references provide a further teaching away from the claimed structure of amended claim 11 because each of the references disclose the use of an oil dipping portion for dipping into an oil reservoir during rotation of the crankshaft. As such, a clearance area cannot be maintained during a complete rotation of the crankshaft above an at-rest oil level. Indeed, if a clearance area actually existed in any of the engines of these references, the engines could not be lubricated because the oil dipping portions could not reach the oil reservoirs.

Thus, the proposed modification of each of the prior art references (e.g., providing a clearance area) would render the prior art references as being unsatisfactory for their intended purposes (e.g., providing lubrication). As such, the cited references cannot render obvious the claims of the instant application. See MPEP 2143.01(V) and *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Conversely, the means for misting oil of the instant application lubricates the engine components without the use of an oil dipper. Further, when the oil within the oil reservoir 38 is in an at-rest condition, such as when the engine 10 is in a non-operational state, the clearance area is maintained during a complete rotation of the crankshaft 24 above the at-rest oil level.

Thus, neither Meyer nor Wu nor Tamba et al. discloses, teaches or suggests every limitation required by amended claim 11, notably "means for misting oil from the oil reservoir without the use of an oil dipper," and "the clearance area being maintained during a complete rotation of the crankshaft above an at-rest oil level." Accordingly, it is respectfully submitted that amended claim 11 is now in condition for allowance. Withdrawal of the rejection is respectfully requested.

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Because claims 14-15 depend from amended claim 11, it is respectfully submitted that claims 14-15 are also now in condition for allowance. Withdrawal of the rejections is respectfully requested.

Claim 16 was objected to by the examiner as being dependent upon a rejected base claim, but would be allowable if rewritten. Claim 16 is dependent upon amended claim 11. Because it is believed that amended claim 11 is now in condition for allowance, withdrawal of this objection and allowance of claim 16 is respectfully requested.

Additionally, however, claim 27 has been added, incorporating claim 16 and all of the limitations of the previously presented (e.g., unamended) claims 11 and 15. As the Examiner has indicated the allowability of claim 16 as such, it is believed that claim 27 is in condition for allowance.

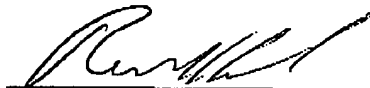
Claims 8-10 and 11, 14, and 15 were rejected under 35 U.S.C. 103(a) as being obvious in view of Haberlein et al. (U.S. 6,109,251). Traversal of these rejections is made for similar reasons to those previously discussed herein regarding amended claims 1 and 11. Because it is believed that amended claims 1 and 11 are now in condition for allowance, withdrawal of these rejections and allowance of claims 8-10 and 11, 14-15 is respectfully requested.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

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If there are any further fees resulting from this communication, please
charge such fees to our Deposit Account No. 16-0820, Order No. 35703.

Respectfully submitted,
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January 25, 2007